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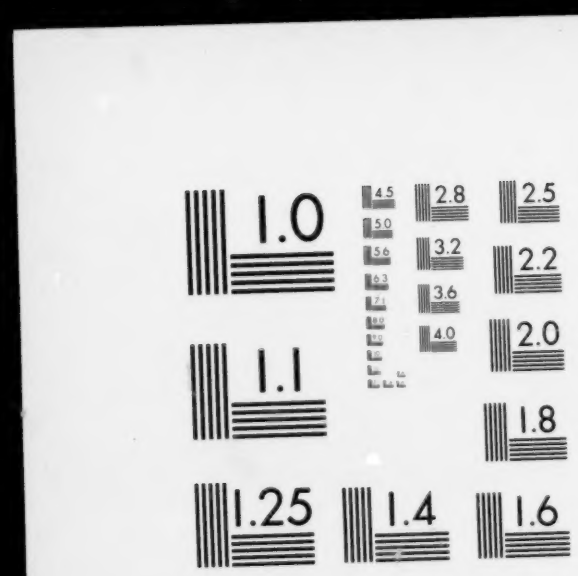

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CULTURAL VALUES AND THE RISKY SHIFT:

A CROSS-CULTURAL TEST IN UGANDA AND THE UNITED STATES

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Abstract

To investigate the hypothesis that the "risky shift" is a function of a cultural value favoring risk, group and individual decisions of Ugandan and U. S. students were compared on two tasks: the choice dilemmas devised by Kogan and Wallach and the actual-consequence situation of Wallach, Kogan, and Bem. On both tasks the individual decisions of the Ugandans were more conservative, supporting the premise that Ugandan students are less favorably disposed to risk taking than are the U. S. students. For the Ugandan sample, group discussions produced no evidence of a risky shift. For the U. S. sample, there was evidence of a risky shift, but not to the extent reported by other investigators. The results were interpreted as consistent with the cultural-value hypothesis; some reservations were discussed.

Cultural Values and the Risky Shift: A Cross-Cultural Test in Uganda and the United States[1]

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During the past decade many investigators have demonstrated that, following group discussion, both individual and group decisions differ significantly from the average of prior individual decisions. For many problems, situations, and populations, the postdiscussion decision has been riskier than the prediscussion decision (Bem, Wallach & Kogan, 1965; Kogan & Wallach, 1967; Stoner, 1961; Wallach & Kogan, 1965; Wallach, Kogan & Bem, 1962). This phenomenon has been labeled the "risky shift." Other situations and problems, however, have consistently produced a cautious shift (Myers, 1967; Nordhøy, 1962; Rabow, Fowler, Bradford, Hofeller & Shibuya, 1966; Stoner, 1968).

Among the hypotheses advanced to explain the shifts in decision following discussion (see Brown, 1965; Kogan & Wallach, 1967), one, the cultural value hypothesis, has recently received considerable attention. Most fully elaborated by Brown, the approach appears to rest on three assumptions: (a) Individual decisions are influenced by and are generally consistent with widely held values. (b) Individuals consider their own behavior to be more consistent with widely held values than that of their peers. (c) Group discussion, or any other source of information that others are as consistent or more consistent with a cultural value, will result in greater conformity to that value. Thus, the risky shift should occur when the cultural value favors risk and the Ss learn that they are no riskier than the others in the group. Conversely, a cautious shift should occur when the value favors caution.

Several lines of evidence support this hypothesis. Hinds (1962) and Wallach and Wing (1968), using some of the original choice-dilemma items (Kogan & Wallach, 1964), found that individuals believed that they were riskier than others. Levinger and Schneider (1969) replicated Wallach and Wing, using all 12 of the original choice-dilemma items. They found that on some items (those which have been least consistent in demonstrating the risky shift and the one item that has consistently led to a cautious shift), individuals believed that they were more cautious than the average. In addition, for the risky-shift items, the position most admired by S was riskier than his own. For the cautious-shift items, there was a reverse tendency. Similarly, Madaras and Bem (1968) found that risk-takers on the 10 risk-shifting choice dilemmas were viewed more favorably than risk-rejectors.

Stoner (1968), using a "value-ranking" questionnaire to define independently widely held values, found that items which engaged a value on risk resulted in a risky shift, while items which engaged a value on caution resulted in a cautious shift following discussion. Similarly, Myers (1967), using the mean of the initial individual decisions as his operational definition of the value, found that risk-dominant items led to a risky shift and that caution-dominant items led to a cautious shift. Both Myers (1967) and Vinokur (1969) have demonstrated that the skewness of the distributions of the prediscussion individual decisions cannot adequately account for the shift.

The use of the mean of initial individual decisions to define the cultural value leads to the prediction of a correlation between the initial risk levels and the amount of shift. To the extent that the prediscussion decisions deviate from some neutral point (not necessarily 5 in 10), the amount of

shift following discussion should increase accordingly. For the Wallach and Kogan choice dilemmas, Myers reported significant correlations between the individual-decision means from the Wallach and Kogan (1959) data and the Wallach et al. (1962) data of .73 for men and .74 for women and a correlation of .89 using Nordhøy's data on six items. Teger and Pruitt (1967) reported correlations of .51 (nonsignificant), .78, and .67 from their own data and .61 from Stoner's (1961) data. Stoner's (1968) correlation of the initial scores with amount of shift was .89.

A substantial amount of evidence is, therefore, consistent with the value hypothesis. To date, however, no investigations have been conducted among cultural groups who place less of a positive value on riskiness. Extensive anecdotal evidence and personal observation on the part of one E suggested that many African societies do not positively evaluate risk. Consequently, and dependent upon documentation of that assertion, further evidence concerning the cultural-value hypothesis could be obtained by exploratory experimentation in an African cultural setting.

The most general hypothesis was initially entertained: If cultural values determine the direction of the postdiscussion shift, and if the African Ss are more conservative than their American counterparts, the risky shift would be reduced or eliminated accordingly. Two decision situations were employed: the Kogan and Wallach (1964) choice dilemma problems and a series of actual-consequence problems similar to those employed by Wallach, Kogan and Bem (1964).

Method

Subjects

Uganda. Two hundred seventy-nine male, African, Form VI students (the final year of secondary school and the thirteenth year of formal education) in the government-supported secondary schools constituted the sample.[4] Subjects were acquired in the following manner: There are 17 government schools in the country with Form VI students. Ten of these are in the Central Region of the country, 4 of which are in the capital city of Kampala. Four are in the Eastern Region, 1 in the Northern Region, and 2 in the Western Region. For participation in the experiment, 2 of the 6 Central schools, 1 of the 4 city schools, and 2 of the 4 Eastern schools were selected. All Form VI students in these schools were asked to participate by E and the Headmaster of each school. Approximately 2 per cent declined. All others (122 students who were female or of Asian origin were also tested, but their data were not considered) participated in at least one of the two experimental sessions. English is the only language of instruction for these students after the sixth year of schooling and was used exclusively in the experiment.

United States. One hundred eight male volunteer students were recruited from fraternities and other campus organizations at Carthage College in Kenosha, Wisconsin.[5] Organizations from which Ss were recruited were paid $5.00 for each four-man group that completed both sessions of the experiment.

Procedure

The Ss met in groups of four, except in cases where one or more members of the scheduled group, without notice, did not appear for the testing session. This occurred nine times for the Ugandan sample and once for the U. S. sample. In each group Ss were previously acquainted with each other,

having come from the same class (in no case larger than 50) in the Ugandan sample and the same organization in the U. S. sample.

Testing consisted of two sessions, separated by a minimum of one week and a maximum of 10 days. Group composition was constant, except in the cases (described above) where a person who had participated in the first session did not appear for the second. For the U. S. sample, the choice-dilemma (CD) questionnaire was administered the first week and the actual- or choice-consequence (CC) task administered the second week. For the Ugandan sample, half was administered the tasks in the CD, CC order and the other half in the CC, CD order.

Choice-Dilemmas. In each of the Kogan and Wallach hypothetical situations, an individual is faced with a choice between an attractive but risky possibility and a less attractive but safer alternative. The S is asked to indicate the lowest probability of success that he would demand before advising the individual involved to attempt the attractive, but riskier venture. For example, Mr. A., an electrical engineer, who is married and has one child, has been working for a large electronics corporation since graduating from college five years ago. He is assured of a lifetime job with a modest, though adequate, salary, and liberal pension benefits upon retirement. On the other hand, it is very unlikely that his salary will increase appreciably before he retires. While attending a convention, Mr. A. is offered a job with a small newly established company which has a highly uncertain future. The new job would pay more to start and would offer the possibility of a share in the ownership if the company survived the competition of the larger firms.

The S chose from six alternatives in making his recommendation: probabilities of success of 1 in 10, 3 in 10, 5 in 10, 9 in 10, or "should not try the risky alternative no matter what the odds of success."

Of the 12 Kogan and Wallach CDs, one, involving the decision of a quarterback in a football game, was eliminated from the present experiment since it was the only one describing a situation not understandable to the Ugandan Ss. The 11 items employed, classified with respect to the central figure and decision area, are presented in Table 1.

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Insert Table 1 about here

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Approximately one-third of the Ss, although meeting as a group, were required to make their decisions individually and without consultation with other group members. After making decisions for all 11 dilemmas Ss were asked to review each one, to write briefly the reasons for their choices, and, finally, to estimate the choice made by a majority of their peers (described for the Ugandan Ss as all other Form VI students in the country and for U. S. Ss as all other college students in Wisconsin). This condition will be hereafter referred to as CD-Individual (CD-I).

The remaining two-thirds of the Ss were required to discuss each dilemma until they reached a consensus about the lowest probability that could be accepted for that situation. This condition will be referred to as CD-Group (CD-G).

Since group discussion took longer than individual choice, the number of dilemmas considered by the CD-I and CD-G groups differed. All CD-I

groups completed all 11 dilemmas. All Ugandan CD-G groups completed a minimum of 4 items, with only 2 of 41 groups completing more than 4. The large majority of Ugandan groups were able to complete 4 within one hour, but in those cases where it took longer the group was required to continue until 4 problems had been completed. The U. S. CD-G groups completed an average of six dilemmas in an hour. For the U. S. Ss a time limit of 15 min. per item was set so that a minimum of four items could be completed in the one-hour session. If group consensus was not reached within the 15 min. period, individuals recorded their own decision and an average was taken as the group decision. This occurred only 6 times in 109 discussions. The items discussed by the CD-G groups and the order in which they were discussed were determined by a table of random numbers.

Choice-Consequences. This task was similar to that used by Wallach et al. (1964), using only mathematics and sentence completion problems. For the U. S. Ss, the item pool for each type was identical to those used by Wallach et al. They consisted of items from the College Board examinations. For the Ugandan Ss items were drawn from this same pool and from the Cooperative School and College Ability Tests.[6] The difficulty levels for Ugandan Ss were determined by pretesting a sample of items on a sample of 103 first-year students at Makerere University College enrolled in an introductory sociology course.

Subjects were informed that they would be able to earn some extra money by solving four problems: two mathematics and two sentence completion. The amount of money they could earn would depend upon the difficulty of

the problems they chose and the correctness of the solutions; solution of difficult problems yielded higher pay. Questions represented nine difficulty levels ranging from a 10 per cent to a 90 per cent probability of failure. Prize money was set so that the expected value of winning (amount of prize multiplied by probability of success) was the same at each difficulty level. In an attempt to establish reasonably comparable incentives for both samples, rewards were determined in terms of presumed purchasing power. For the U. S. Ss the actual rewards, in cents, for correct solutions to problems at the nine difficulty levels were: 11, 12, 14, 16, 20, 25, 33, 50, 100. For the Ugandan Ss the comparable currency equivalents were 5.6, 6.3, 7.0, 8.4, 9.0, 12.6, 16.8, 24.5, and 49.0.

Before any choices were made Ss were permitted practice questions at the 10, 35, 60, and 85 per cent difficulty levels for each type of problem. They were then given the correct answers to each practice problem, and any questions of their own were answered. Each S was then asked to select the difficulty level for one mathematics and one sentence completion problem. He was required to make that choice individually and without consultation. Following these individual choices, treatment differences (randomly assigned to groups) were introduced. Control (C) Ss simply repeated the individual choice procedure for the remaining two items. Group Choice (GC) Ss were asked to discuss and make a group decision as to the difficulty level to be tried by each member of the group on each of the last two problems. Group Representative (GR) Ss were asked to make a group decision, as in the GC

condition, and, in addition, to select one member of the group to solve each problem for the group. These Ss were informed that the entire group would be rewarded only if their representative was correct. Following the choice of the difficulty levels for the last two problems, the groups were given the problems to solve.

Results

Choice-Dilemmas

The basic data were the probability levels chosen by each S or group, i.e., the odds of success based on chances in 10, that one would demand before advocating risk; the higher the score the more conservative the decision. For the CD-I condition, mean probability levels for each item were obtained as the mean of the group means. The means for both CD-I and CD-G conditions are presented in Table 2.

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Insert Table 2 about here

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For the Ugandan sample, the 24 CD-I groups initially consisted of 21 four-man groups and 3 three-man groups. In 5 of the four-man groups, however, one S was eliminated for misinterpreting the task, leaving 16 four-man groups and 8 three-man groups. Only those who indicated (in their written reasons for the probability choices) that they were estimating actual odds of success rather than setting probability levels for risk taking were judged to have misinterpreted the task. Of the 9 U. S. CD-I groups, 7 were initially four-

man groups, but elimination for misunderstanding the task as above produced 6 four-man and 3 three-man groups.

First, the CD-I decisions of the U. S. and Ugandan samples were compared. As expected, the mean of the decisions of the Ugandan sample was significantly more conservative than that of the U. S. sample. The overall mean for the 11 items was 6.97 for Uganda and 5.80 for the U. S. ($\underline{t}$ = 2.21; $\underline{df}$ = 20). As reported in Table 2, 10 of the individual item comparisons showed less risk advocated by the Ugandans, 6 significantly so. On only one item, the foreign-investment dilemma, was there an opposite tendency. Thus, using initial individual decisions as a definition of the strength of the cultural value on risk, the data support the notion that the Ugandans place a lower positive value on riskiness.

Next, CD-I decisions were compared with the "majority of peers" or cultural value estimates (hereafter referred to as CD-CV) within each sample. For the U. S. data, the CD-CV decisions, averaged over the 11 items, were significantly more conservative ($\bar{D}$ = .35; $\underline{t}$ = 1.96; $\underline{df}$ = 10), as predicted by the cultural-value hypothesis. The individual item comparisons (see Table 2) also revealed the conservative trend. The majority (9 of 11) of the CD-CV decisions were more conservative than the CD-I decisions, although only three were significant. For only two items, the marriage dilemma and the foreign-investment dilemma, were the differences in the opposite direction (only one was significant). This replicates the Levinger and Schneider (1969) findings, and these items are the two which have consistently failed to produce the risky shift.

For the Ugandan sample, the CD-I vs. CD-CV comparison over all 11 items was not significant ($\bar{D}$ = .10; t = .48; df = 10). Of the 11 separate item comparisons (see Table 2), five produced a more conservative CD-CV choice. Three of these, the same three as for the U. S. sample, were significant. On the other six items, the CD-CV choice was more risky, but only one of these, the marriage dilemma, was significant. It appears that the cultural value engaged by the hypothetical choice-dilemma situations is item specific, but that over the 11 items employed in this investigation a positive value on riskiness was dominant for the U. S. sample, but was not for the Ugandan sample.

Finally, the effect of group discussion was assessed. The CD-I and CD-G means for the Ugandan sample were virtually identical: 6.97 and 7.04, respectively. Item analysis showed that for no item was there a significant risky shift, but two items resulted in significant conservative shifts (see Table 2). The rank-order correlation between initial risk level and amount of shift was .40 (not significant). More surprising, the U. S. overall means of 5.80 and 5.27 for CD-I and CD-G respectively were not significantly different. Table 2 shows three significant risky shifts and one significant conservative shift. The rank-order correlation between initial risk levels and shift was -.32 (not significant).

Choice-Consequences

The basic data were the difficulty levels chosen by the S or the group, expressed as the number of times out of 10 the problem was failed by the normative population. Hence, a higher score reflects a more difficult or

more risky choice. For the individual decisions, group scores were formed by computing the mean for the group. The mean difficulty levels chosen are reported in Table 3. Of the 68 Ugandan groups, 62 were four-man and 6 were

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Insert Table 3 about here

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three-man groups. All 23 U. S. groups were four-man groups.

As a check on the comparability of the treatment-condition groups, the individual initial choices (prior to the introduction of the treatments) were analyzed for each sample. In neither sample was there an interaction between item type and condition nor a main effect for conditions. For the Ugandan sample there was a significant item difference ($F_{1,65} = 14.50$; $p < .01$). Ss chose more difficult sentence completion items than mathematics items.

Since the two samples had received practice on problems of presumably equivalent difficulties, it was possible to compare the initial choices of the two samples. A t of 3.71 for the mathematics items and 2.19 for the sentence completion items ($df = 89$ in each case) were both significant, indicating that the Ugandan Ss were initially more conservative in their decisions. These differences cannot be attributed to differences in practice-item difficulties, although analysis of the practice data revealed substantial deviations from the expected difficulty levels of 90, 65, 40, and 15 per cent passing. For the mathematics items the percentages passing the four items were 96, 80, 42, and 26 for the U. S. sample and 93, 79, 83, and 55 for the Ugandan sample. Since the practice items for Ugandans

were actually easier than they had been led to believe, the impact would have been to raise to the subsequent difficulty levels chosen thereby reducing the differences between the two samples.

For the sentence completion items the percentages passing were 97, 84, 85, and 37 for the U. S. sample and 95, 59, 73, and 30 for the Ugandan sample, compared to the expected 90, 65, 40, and 15. In this case the "40%" and "15%" items were substantially easier than expected for both samples and should not have had a differential impact on the subsequent decisions made by the two samples.

Because there was no initial interaction between item type and treatment conditions, subsequent analyses were based on shift scores averaged over the two item types. In order to create proportional subgroups across conditions for an analysis of variance, one U. S. group and two Ugandan groups from the Control (C) condition, one U. S. group from the Group Choice (GC) condition, and three Ugandan groups from the Group Representative (GR) condition were randomly eliminated, leaving seven U. S. and 21 Ugandan groups. The average shift scores are reported in Table 4. The interaction

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Insert Table 4 about here

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F of 2.21 for samples by treatments was not significant ($p > .10$). Both main effects, for treatments ($F_{2,78} = 3.29$; $p < .05$) and for samples ($F_{1,78} = 6.06$; $p < .01$), were significant. Within the Ugandan sample none

of the shifts differed significantly from one another. Comparison of the initial individual decisions with the later, posttreatment decisions within each condition also showed the former to be not significantly different from the latter.

For the U. S. sample, on the other hand, the amount of shift for both the GC and GR conditions was greater than that of the C condition, (t's = 1.90 and 3.07 respectively; df = 70) but the GC and GR shifts did not differ from one another. Within conditions, as shown in Table 4, only the GR shift differed significantly from its own control.

Between samples the only significant difference in the amount of shift occurred in the GR condition. The shift was greater for the U. S. than for the Ugandan sample (t = 3.03; df = 78). Thus, group discussion and decision making produced a risky shift for only the U. S. sample and even for that sample the shift in the GC condition was equivocal in that it differed from the C condition, but not its own control and was not significantly greater than that of the Ugandan GC condition.

Discussion

The findings obtained from the two experimental tasks were essentially equivalent. Initial decisions of the Ugandan Ss were consistently more conservative than those of the U. S. Ss. This, coupled with the finding from the CD task that the "majority of peers" estimates were more conservative only for the U. S. sample, upholds the initial assumption of the investigation, that there was less of a cultural value favoring risk among the Ugandan sample.

The evidence regarding the effects of group discussion on decision making was more equivocal. As predicted from the cultural-value hypothesis, the Ugandans did not make riskier decisions in the group discussion conditions. In the CD task the only significant CD-I vs. CD-G differences were more conservative group decisions, and in the CC task neither the GC nor the GR conditions produced a risky shift. These findings must be viewed with some caution, however, since the comparable findings for the U. S. sample did not entirely replicate the results of most previous investigations which report a risky shift as a result of group discussion. In the CD portion of the experiment there was a significant risky shift on only three of the 11 items. The previously reported positive relationship between level of initial risk and amount of shift was not obtained. In the CC situation, the effect of the manipulation introduced in the GC condition was only marginally effective in producing a risky shift.

Several considerations are relevant to this partial failure to replicate. First, the design of the present experiment resulted in comparing CD-I and CD-G decisions which were derived from different groups of Ss, whereas the more common approach has been to employ a within-subjects design in which respondents first make individual decisions and then participate in group discussion. Whether an initial individual decision is a prerequisite to a significant postdiscussion shift, and why this should be the case, is unclear, but there is some evidence (Davis, Hoppe & Hornseth, 1968; Hunt & Rowe, 1960; Nordhøy, 1962) that there is a smaller shift in a between-subjects design.

Of course, one function of employing a between-subjects design, given the same number of groups, is to reduce the power of the statistical test. Thus, failure to find a significant difference could be a statistical artifact. Coupled with the rather small number of groups in the U. S. sample (ranging from 7 to 12 depending upon the condition) this possibility is plausible. Therefore, the amount of shift obtained in the present investigation was compared with that obtained by others. For the CD items Wallach et al. (1962) obtained an average shift per item of .75 for males over the 11 items employed in this study. Wallach and Kogan (1965) report an average shift of .32 for males over all 12 items (individual item data were not reported). Teger and Pruitt (1967) found an average shift of .53 for male groups over the 11 items. The procedures in each of these investigations was very similar to that of the investigation reported here with the major exception of the use of the within-subjects design. The average shift for the U. S. groups of this investigation was .53, a value well within the range of that obtained by others. It should be noted that Teger and Pruitt also tested the amount of shift against a control group (a between-subjects analysis), but only for the 10 items predicted to shift toward risk. It is apparent that such an analysis of the present data would not have produced a significant overall shift since item no. 4 (the stocks-investment dilemma) has typically shifted toward risk, but produced a large and significant shift toward caution here. In general, and with the notable exception of the stocks dilemma, item by item comparison with the Wallach et al. (1962) data and the Teger and Pruitt (1967) data also reveals

highly similar initial decision levels and shifts. Thus, it would appear that the present data are not atypical of other findings and should not be definitively interpreted as a failure to replicate.

A similar comparison is possible with the CC task. Extracting from Wallach et al. (1964) the data for the mathematics and sentence completion item types, the average shift was .80 for the C condition, 7.45 for the GC condition, and 14.35 for the GR condition. These differences compare closely with the 1.09, 5.62, and 13.39 respectively of the present data and again suggest that the equivocal replication in the GC condition should be interpreted cautiously.

Further reservations concern the appropriateness or relevance of the test situations (particularly the CD items) for the Ugandan sample and the appropriateness of the secondary school sample for the cross-cultural comparison. By the time S has reached the final year of secondary schooling, all of the hypothetical decision areas of the dilemmas are plausible and, in most cases, potentially encounterable for him. Even so, the typical Ugandan is less likely than the average U. S. respondent to actually encounter most of the situations. The effect of such lowered probability is unclear; it could be rationally argued that it would both raise and lower risk levels.

Even if the CD situations were equally encounterable for Ugandans and Americans, the specific items may evoke different values that are independent of risk. This is exemplified by one item in particular, the one in which a corporation president must decide whether or not to build a plant in a developing country which has had a recent history of political instability.

In the U. S. this item has usually produced relatively conservative individual decisions and has not always produced a risky shift. If there were any item for which one would expect the Ugandan students to have an initially different perspective, it would be this item. In fact, this was the only item on which the Ugandans initially made a significantly more risky decision. It is interesting to note that the shift on this item was risky for the U. S. sample and conservative for the Ugandan sample.

With regard to the appropriateness of the Ugandan sample, it should be recognized that to generalize from a sample of secondary-school students to the Ugandan population is entirely unwarranted since this group represents a highly selected segment of that population. The rationale for employing the school students in this investigation was simple: to begin the cross-cultural exploration of the risky-shift phenomenon using situations and stimuli for which there was already a literature base and to select a sample from the "other culture" which was as similar as possible in age and education. Future research must include other "more typical" samples and other more "culturally relevant" decision situations. In general, however, the results of this exploratory cross-cultural investigation must be interpreted as supporting a cultural-value explanation for postdiscussion shifts in decision behavior.

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Footnotes

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[2]Formerly at Educational Testing Service, Princeton, New Jersey. This research was conducted during the tenure of a NIMH Postdoctoral Fellowship. Requests for reprints should be sent to Julia A. Carlson, Department of Psychology, Vassar College, Poughkeepsie, New York 12601.

[3]This research was conducted during the tenure of a SSRC Foreign Area Fellowship and affiliation with Makerere University College, Kampala, Uganda. Appreciation is expressed to the government of Uganda for permission to conduct the experiment in the secondary schools.

[4]An ethnic group breakdown of the African students is available on request. N's were too small to profit from analyzing ethnic group differences for the present report.

[5]Appreciation is expressed to Carolyn Arnold, Penney Peterson, and Bonnie Engle who collected the data and to the Department of Psychology and administration of Carthage College who made it possible to collect data on campus.

[6]Published by the Cooperative Test Division, Educational Testing Service, Princeton, New Jersey.

Table 1

The Choice-Dilemma Situations

	Central Figures	Decision Area
1.	young engineer	company affiliation
2.	middle aged accountant	heart operation
3.	prospective graduate student	university affiliation
4.	chess player	playing strategy
5.	successful businessman	political office
6.	young couple	marriage
7.	young father	stock investment
8.	corporation president	foreign investment
9.	college senior, pianist	career choice
10.	prisoner of war	escape
11.	young physicist	research problem

Table 2

Choice Dilemma Item Means for Individual, Group, and Cultural Value Choices by Ugandan and U. S. Samples and Tests of Differences

		Choice Dilemma Items										
		1[a]	2	3	4	5	6	7	8	9	10	11
Uganda	CD-I[b]	7.75	7.33	6.01	6.55	7.06	8.54	7.83	7.34	7.30	5.35	5.57
Uganda	CD-G[c]	8.88	6.47	5.44	6.08	7.12	8.67	8.65	8.50	7.21	5.27	5.12
Uganda	CD-CV[d]	7.68	7.73	6.79	6.24	6.71	7.47	7.23	7.36	7.43	6.14	6.96
U. S.	CD-I[e]	5.43	6.83	4.40	4.44	5.99	7.45	5.79	8.47	6.57	3.84	4.56
U. S.	CD-G[f]	3.40	6.11	4.50	3.18	5.30	7.67	8.30	6.18	4.40	4.06	4.88
U. S.	CD-CV[g]	5.52	7.21	5.88	4.87	6.25	7.18	5.93	7.89	6.65	4.91	5.48
t	Uganda vs. U. S. CD-I	4.07*[h]	.78	2.82*	3.06*	1.57	2.51*	3.48*	-1.82	1.24	1.86*	1.58
t	Uganda CD-I vs. CD-CV	.42	-1.06	-2.42*	1.08	.72	3.87*	1.58	.04	-.33	-1.96*	-3.80*
t	U. S. CD-I vs. CD-CV	- .19	-1.64	-5.93*	-.79	-.67	1.19	- .46	2.56*	-.28	-2.77*	-2.46*
t	Uganda CD-I vs. CD-G	-2.25*	1.19	.89	.60	-.11	-.31	-1.35	-2.00*	.11	.09	.61
t	U. S. CD-I vs. CD-G	3.15*	1.05	- .10	1.35	.77	-.36	-3.81*	2.23*	3.17*	- .23	- .27

*$p < .05$, two-tailed test

[a]See Table 1 for a description of the items.

[b]Refers to individual decisions; n = 24 groups

[c]Refers to group decisions; n's range from 13-17

[d]Refers to the "majority of peers decision" estimate; $n = 24$

[e]$n = 9$

[f]n's range from 8-12

[g]$n = 9$

[h]A positive value indicates a risky shift

Table 3

Mean Difficulty Levels Chosen by Ugandan and U. S. Groups on the Choice-Consequence Items

		Uganda	U. S.
		(N = 23)	(N = 8)
Control	Math 1[a]	6.82	8.12
	Math 2	7.02	8.19
	S.C.[b] 1	7.58	8.47
	S.C. 2	7.59	8.62
		(N = 21)	(N = 8)
Group Choice	Math 1	6.99	7.65
	Math 2	7.00	8.38
	S.C. 1	7.62	7.97
	S.C. 2	8.05	8.38
		(N = 24)	(N = 7)
Group Representative	Math 1	6.90	7.28
	Math 2	7.25	9.00
	S.C. 1	7.40	7.61
	S.C. 2	7.70	8.57

[a] Number refers to order of choice. All first choices were individual choices. Treatments were introduced before the second choices.

[b] Sentence Completion

Table 4

Mean Shifts in Risk-Taking Levels for the Ugandan and U. S. Samples, Averaged Over the Two Choice-Consequence Item Types

	Uganda (N = 21)	U. S. (N = 7)
Control	.10	.12
Group Choice	.22	.59
Group Representative	.36	1.34*

*p < .01, two-tailed test